

PROJECT TITLE : ANALYTICAL INVESTIGATIONS  
PERIOD COVERED : APRIL 17 - MAY 15, 1981  
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#### ORGANIC ACIDS BY GC

Work on the development of a gas chromatographic method for the group analysis of citric, lactic, malic, succinic, fumaric, tartaric, pyruvic and oxalic acids in fermented tobacco extracts, requested by Biotechnology (1), has been completed. A typical gas chromatogram of an experimental sample is shown in the figure.

A PME Analytical Method is presently being prepared.

#### ORGANIC ACIDS AND PHENOLS BY GC

As an extension to our work on the determination of organic acids in fermented tobacco extracts, an analytical procedure for the simultaneous analysis of a wide range of aliphatic C-2-C<sub>18</sub> and aromatic mono carboxylic acids and of phenols in tobacco and in tobacco smoke condensate, is presently being investigated. The method involves a steam distillation step (clean-up), derivatization of acids and phenols by extractive alkylation, using penta-fluorobenzylbromine / tetrabutylammonium ion and analysis of pentafluorobenzyl esters and pentafluorobenzyl ethers by (GC)<sup>2</sup> and EC detection.

#### SERVICE FOR OTHER GROUPS

- Six triacetin samples were analysed for QC by (GC)<sup>2</sup> (2)(3).
- Phosphate and sulfate were determined in 85 samples for Biotechnology.
- Amino acids were analysed in 12 samples of Project SAVOURY.

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REPORT WRITTEN

"CF in Filler by Gas Chromatography", PME Analytical Method.

REFERENCES

- (1) Memo from Gaisch-H. to Fink-W., September 1980
- (2) Memo from Widmer-A. to Fink-W., May 1981
- (3) Memo from Lecoultre-E. to Fink-W., May 19, 1981

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